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*Indian Standard*

METHOD FOR  
VERIFICATION OF SCLEROSCOPE  
HARDNESS TESTING MACHINES

*( First Revision )*

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BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## METHOD FOR VERIFICATION OF SCLEROSCOPE HARDNESS TESTING MACHINES

( First Revision )

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# *Indian Standard*

## METHOD FOR VERIFICATION OF SCLEROSCOPE HARDNESS TESTING MACHINES

### ( *First Revision* )

#### 0. FOREWORD

**0.1** This Indian Standard ( First Revision ) was adopted by the Indian Standards Institution on 10 July 1984, after the draft finalized by the Methods of Physical Tests Sectional Committee had been approved by the Structural and Metals Division Council.

**0.2** This standard was first published in 1974 and covered the requirements of scleroscope hardness testing machines and their verification. Now the requirements of the scleroscope testing machines including the method of conducting scleroscope hardness test have been covered in IS : 7096-1981\*. So the Sectional Committee decided to revise this standard incorporating only the method for verification of scleroscope hardness testing machines and also to change the title of the standard accordingly.

**0.3** In the preparation of this standard considerable assistance has been derived from ASTM E 448-72 ( Reapproved 1977 ) ' Standard recommended practice for scleroscope hardness testing of metallic materials ', issued by American Society for Testing and Materials.

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#### 1. SCOPE

**1.1** This standard specifies a method of verification of testing machines for determining scleroscope hardness in accordance with IS : 7096-1981\*.

**1.2** It describes a standardized test block method for the verification of scleroscope hardness testing machines.

#### 2. VERIFICATION

**2.1 General Conditions** — Before a scleroscope hardness testing machine verified, it shall be checked to ensure that:

- a) The machine is properly set up and levelled in a clamping stand resting on a vibration-free support;

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\*Method for scleroscope hardness testing for metallic materials ( *first revision* ).

- b) The hardness verification shall only be made on test blocks with the scleroscope mounted in a clamping stand;
- c) Under no circumstances hardness verification shall be made on test blocks with the scleroscope mounted in the swing arm and post, the roll testing stand or the scleroscope held free hand;
- d) The diamond is free from cracks or flaws which would lead to incorrect readings; and
- e) The machine is clean and the hammer is free from any foreign matter.

**2.1.1** For the purpose of verifying the hammer, it shall be ensured that it meets the requirements given in IS : 7096-1981\*.

## **2.2 Verification by Standardized Test Blocks**

**2.2.1 Procedure** — Verification may be carried out by means of standardized blocks calibrated in accordance with IS : 10166-1982†.

**2.2.1.1** Five tests on each of the four sides of the block shall be made. The tests shall be carried out, not closer than 13 mm from the ends of the blocks and not closer than 6 mm from the sides of the blocks.

**2.3 Assessment of Verification** — Scleroscope hardness testing machine shall be considered verified, if 90 percent of scleroscope readings taken on the test blocks deviate not more than  $\pm 3$  scleroscope points from the mean of the spread in scleroscope hardness numbers marked on the blocks.

**2.4 Verification for Periodic Checks** — Alternatively, for the routine check up of the machine, the following procedure may be used.

The routine check shall be carried out each day when the machine is used.

Five hardness readings shall be made on a standardized hardness test block at the hardness level at which the machine is being used. If the values fall within the range of the standardized hardness test block the machine may be regarded as satisfactory, if not the machine should be verified as described in 2.3.

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\*Method for scleroscope hardness testing for metallic materials (first revision).

†Method for calibration of standardized test block for verification of scleroscope hardness testing equipments.



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